REMARKS

Objection to the Drawings

The drawings have been objected to for failing to comply with 37 CFR 1.84(p)(5) because they include reference character 32 not mentioned in the description.

The specification, at paragraph 0022, has been amended to include a description of reference 32.

U.S.C. §112, second paragraph

Claim 2 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 has been amended as suggested to resolve the above rejection.

35 U.S.C. § 103

Claims 1-4, 6-8, 11 and 13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Europe 971 (EP 1075971) in view of Japan 919 (JP 2002-103919) and at least one of Japan 403 (JP 3-186403) and Fontaine (US 5343918). This rejection is respectfully traversed for the following reasons.

Europe '971 is cited for disclosing a tire tread having a central rib having "chamfers", and steeply slanted grooves in each side region defining tread blocks extending from the central tread region to the shoulder. The goal of Europe '971 is a tire tread efficient in discharging water from the tread. However, Europe '971 is silent about siping of the central rib and blocks.

To overcome these deficiencies, Japan '919 is applied. Japan '919 is also concerned with efficient water discharge from the tread, and also desires to achieve good snow and ice performance. To achieve the efficient water discharge, in the tread of Figure 2 of Japan '919, Japan '919 discloses the use of false land parts not too dissimilar from the pseudo land portions of Europe '971; thus it would not be unexpected that one skilled in the art looking to modify Europe '971 would look to Japan '919 to also improve other tire characteristics such as snow and ice performance.

To achieve the snow and ice performance, Japan '919 teaches providing the central rib

with sipes (paragraph 0020) dividing the non-central tread portion into a defined shaped blocks with beveled tips (paragraph 0027), and providing these side blocks with sipes (paragraphs 0012, 0040). In both illustrated tread configurations, the spacing of the sipes across the entire tread width is constant – the sipe density in the tread center is equal to the sipe density in the tread side regions, and the spacing between sipes is constant in the side regions.

However, in the rejection, it appears that the Examiner has chosen to only apply Japan 919's teachings of the central rib siping to the tread of Europe '971 for improving the winter performance of the tire, ignoring the explicit teachings of constant spacing and identical siping density in the tread side regions that are required to achieve the improved tire performance and which are contrary to the claimed invention; thus "cherry-picking" the reference. Such piecemeal use of a reference is not permissible, *see* Ecolochem, Inc. v. Southern California Edison Co., 227 F.3d 1361, 1371, 56 USPQ2d 1065 (Fed. Cir. 2000)(quoting In re Fine, 837 F.2d 1071, 1075 (Fed. Cir. 1988)) ("cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."), W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d, 220 USPQ 3030 (Fed. Cir. 1983), *cert. Denied*, 469 U.S. 851 (1984) (When using a reference in a prior art rejection, the prior art must be considered in its entirety, including any disclosures that teach away from the claim), and MPEP 2141.02.

To reject the elements of the claim regarding the siping density, Japan '403 and Fontaine are applied.

Japan '403 teaches that the snow traction index, STI, is greater in the central region that in the tread shoulder portions. The STI is calculated using not just the siping amount, but also the groove amount. The STI is calculated by the following equation:

$$STI = (-6.8) + 2202(r1) + 672(r2) + 7.6(Dg)$$ wherein

Dg is the average groove depth,

r1 = (lateral groove length)/(ground contacting tread width x ground contacting tread length),

r2 = (lateral sipe length)/ (ground contacting tread width x ground contacting tread length).

As can be seen from the equation, the lateral groove length has the most significant impact on the value of the STI. For the disclosed treads of Japan '403, all having identical grooves and block configurations across the tread, the main difference in the STIc and STIs is determined by the sipe length as that is the only variant that will affect the value of STIc and STIs.

Applying Japan '403 teachings to the tread of Europe '971 as modified by Japan '919

as set forth in the Office Action (wherein only the teaching of the rib siping is used in EP '971), one would look to apply the teachings of the STI values and the STIc/STIs ratio to achieve improved winter performance to a particular tread configuration. In the tread of modified Europe '971, the tread central portion (the middle 50%) has wide deeply slanted transverse grooves, and dense siping in the central rib, while the tread shoulder portions (the two outer 25%) has less lateral groove length and one sipe. The central tread has a groove length approximately equal to 135% of the shoulder groove length, see Exhibit 1, lines A, B, and C. One skilled in the art, using Japan '403's STI equations, would appreciate that the STIc of modified Europe '971, once the lateral length of the central rib siping is calcuated, is already relatively greater than the STIs, and is already likely within Japan '403 taught STIs/STIc ratio of 0.90 to 0.70; thus, there is no need to add sipes to the shoulder blocks as that would only increase the STIs, which Japan '403 teaches should be kept low.

If the Examiner is using Japan '919 to teach using siping over the entire tread width of Europe '971, but then modifying the spacing of the sipes in the shoulder regions to achieve the STI ratio of Japan '403, then the teachings of Japan '403 would still be meet without such a modification of spacing for the following reason. Japan '919 teaches using the same siping density across the entire tread width. Thus for the tread of Europe '971 as modified by Japan '919, the contribution of the lateral siping length in the values of STIs and STIc would be equal and the contribution of the lateral groove length in the values of STIs and STIc results in the difference between these values. As shown above, the lateral groove length in the central tread portion is approximately 135% greater than in the shoulder regions. Thus the tread of Europe '971 already meets the teachings of Japan '403 *without* modifying the sipe spacing or relative densities of the different tread portions as recited.

Alternatively, Fontaine is applied to teach varying the siping to achieve more uniform handling and grip of an all weather tire. Applicants disagree with how one skilled in the art would interpret the teachings of Fontaine as applied to Europe '971 as modified above. Fontaine teaches that the shoulder portions of the tread should have a high stiffness, while the intermediate portions should have a low stiffness. For treads having a central rib, as seen in Figure 2, which is most closely relevant to the tread of Europe '971, Fontaine teaches that the central rib should actually have a high stiffness only somewhat less than that of the shoulder regions but greater than that of the intermediate tread regions (col 2, lines 11-30; col 4, lines 7-25). Applicants acknowledge that Fontaine also teaches treads that have the entire central portion having a stiffness less than that of the shoulder portions (figs 4, 5, and 10-17);

however, those treads are not similar to that of Europe '971 having a central rib. As Fontaine provides specific teachings reading a tread having a central rib, it is those teachings that one skilled in the art would have found most obvious to apply at the time of the invention.

However, applying such teachings are contrary to that of Europe '971 as modified above wherein the central rib is heavily siped; thus one skilled in the art would not look to Fontaine to modify the tread of Europe '971 as proposed in the Office Action. *See* In re Gurley, 27 F.3d 551, 553, 31 U.S.P.Q. 1131, 1132 (Fed. Cir. 1994) ('We have noted elsewhere, as a "useful general rule," that references that teach away cannot serve to create a *prima facie* case of obviousness.').

To establish *prima facie* obviousness, there 1) must be some suggestion or motivation in the art to modify or combine the references; 2) must be a reasonable expectation of success and 3) the combined references must teach or suggest all the claim limitations. Graham v. Deere. The above rejection fails to meet these three requirements.

The above combination of references fail to provide a reasonable expectation of success. The application of Japan '403 to the tire of Europe '971 modified by Japan '919, when the full teachings are properly applied, fails to further modify the modified tread of Europe '971. Also, the application of Fontaine would be contrary to the teachings of Japan '919 as noted above.

Most importantly, the combined references, even if the rejection is given full faith and credit, fail to teach or suggest *all* of the claimed limitations. Claim 1 recites that the sipes in the circumferentially adjacent tread blocks are arranged such that the spacing between adjacent sipes *increases toward* the tread shoulder. All of the references applied in the rejection, even when disclosing siping densities differing in the tread central and the tread shoulder regions, show *constant* sipe spacing. Not a single reference teaches the increasing spacing of the sipes in the tread shoulder regions.

As Europe '971 in view of Japan '919 and in view of either Japan '403 or Fontaine fails to establish *prima facie* obviousness of the invention as recited in claims 1-4, 6-8, 11 and 13, it is respectfully requested that the rejection be reconsidered and withdrawn.

Claims 2-5 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Europe 971 in view of Japan 919 and at least one of Japan 403 and Fontaine and further in view of Himuro 892 (US 2002/0062892), Japan 513 (JP 2002-240513) or Ratliff (US 2004/0069389). This rejection is respectfully traversed for the following reasons.

The above rejection is based upon a rejection of claim 1 over Europe '971 as modified by Japan '919 and either Japan '403 or Fontaine. As noted above, this rejection fails to establish *prima facie* obviousness as it fails to teach each and every claim limitation. Himuro '892, Japan '513, and Ratliff '389 fail to remedy this deficiency as none of them teach a varying siping spacing in the blocks in the side regions of the tire.

It is held obvious to further modify Europe '971 for the purpose of improved water drainage.

Himuro '892 is sited for the teaching of ground contacting laterally oriented edges; such edges providing improving traction. One skilled in the art would appreciate that such edges could improve traction; however, providing such edges to the tread of Europe '971 would still not result in the claimed invention for the following reason. Claim 3 recites that the chamfers *circumferentially extend from* the lateral edge. The slant groove portion/"chamfer" of Himuro fails to circumferentially extend from the lateral edges of the central rib. Thus, even if providing the lateral edges of Himuro to the tread of modified Europe '971 will still not inherently result in the claimed invention.

Japan '513 is sited for teaching "rib chamfers" wherein the rib has ground contacting laterally extending edges for improving water drainage. Though Japan '513 is directed to water drainage, Japan '513 teaches a straight sided rib with the chamfers formed *within* the rib. To modify the rib of Europe '971 as modified above would direct one skilled in the art to "pull" the pseudo land portions of Europe '971 into the rib; at that point it is no longer a pseudo land portion as taught by Europe '971, and would destroy the teachings of Europe '971. Thus one skilled in the art at the time of the invention would not seek to modify the rib and pseudo land portion of Europe '971 with the chamfered rib of Japan '513.

Ratliff '389 discloses chamfers on the *tread blocks*, the chamfers creating a lateral edge to the block side wall configuration. There is nothing in Ratliff '389 that would suggest modify a straight rib to have a laterally extending edge from which a chamfer extends. The chamfer of Ratliff is on a block, contrary to the configuration of Europe '971. One skilled in the art would not expect to modify Europe '971 with the teachings of Ratliff.

The further modification of Europe '971 by the three alternative references fails to establish *prima facie* obviousness as there is no reasonable expectation of success and still fails to teach and disclose each and every element of the claimed invention.

It is requested that this rejection be reconsidered and withdrawn.

Claims 9, 10 and 14 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Europe 971 in view of Japan 919 and at least one of Japan 403 and Fontaine and further in view of Europe 685 (EP 688685).

Europe '685 is cited for teachings regarding the width of the slant groove extending from the tread central region. As noted above, Europe '971 as modified above fails to establish *prima facie* obviousness of the independent claim 1. Europe '685 fails to remedy this deficiency it suggests a constant siping spacing in the blocks in the side regions of the tire. As Europe '971 as modified above fails to anticipate or render the subject matter of claim 1 obvious, than any rejection of the dependent claims based on Europe '971 as modified above also fails.

It is requested that this rejection be reconsidered and withdrawn.

Allowable Subject Matter

The indication of allowability of claim 12 is appreciated. New claim 15 incorporates language from original claim 12.

In light of this amendment, all of the claims now pending in the subject patent application are allowable. Thus, the Examiner is respectfully requested to allow all pending claims.

Respectfully submitted,

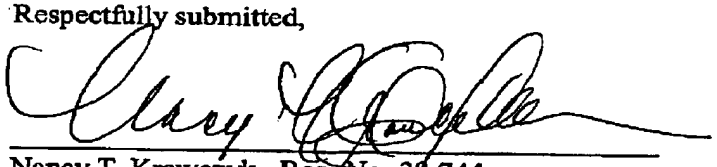

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Exhibit 1

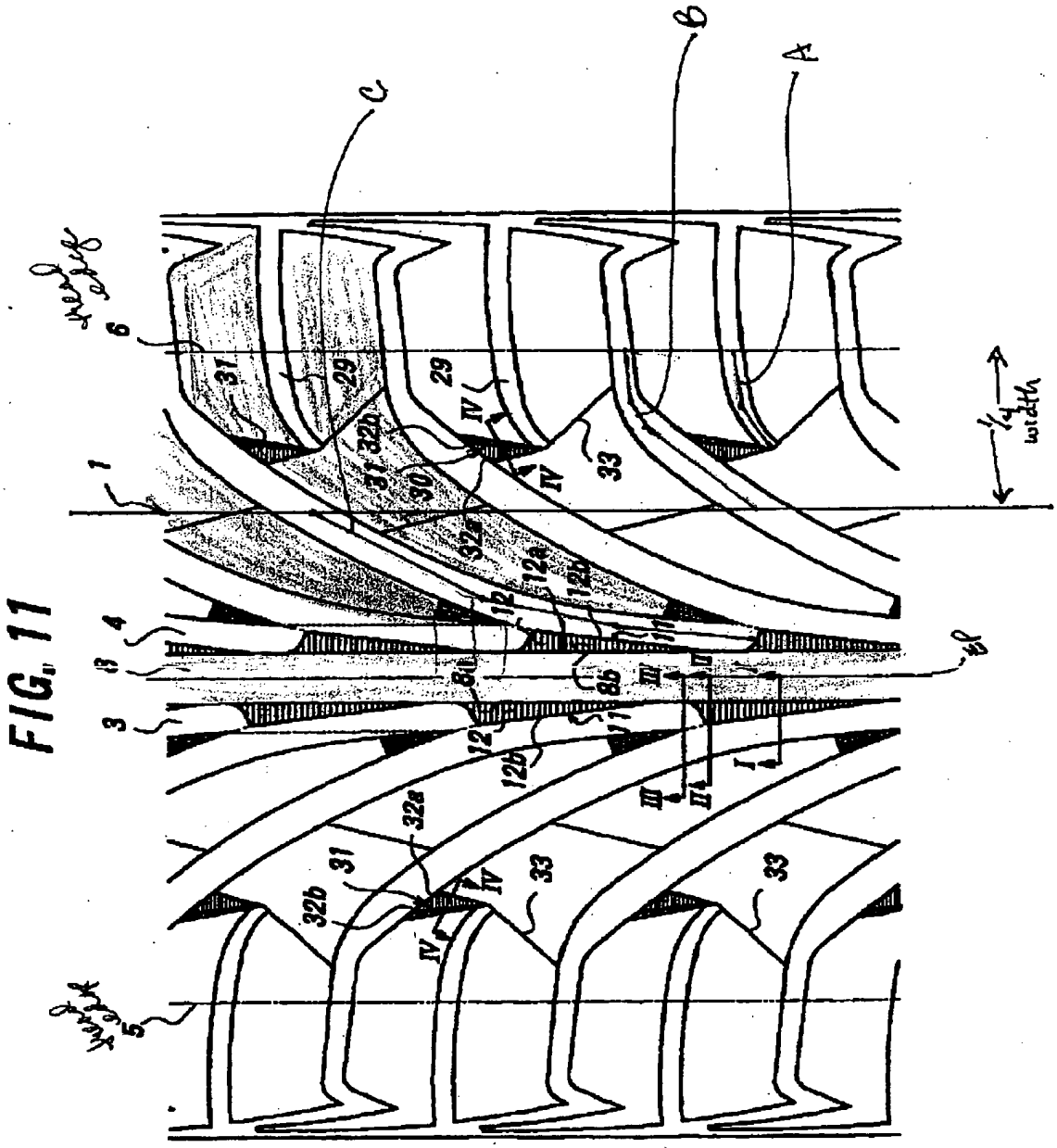

FIG. 11